



Australian Research Alliance  
for Children & Youth

**EARLY CHILDHOOD AND LONG TERM  
DEVELOPMENT:**

**The Importance of the Early Years**

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## ABOUT ARACY

The Australian Research Alliance for Children and Youth (ARACY) was founded by a group of eminent experts and organisations in reaction to increasingly worrying trends in the wellbeing of Australia's young people.

ARACY is a national organisation with members based across Australia.

ARACY asserts that by working together, rather than working in isolation, we are more likely to uncover solutions to the problems affecting children and young people.

ARACY is a broker of collaborations, a disseminator of ideas and an advocate for Australia's future generation.

ARACY has two primary goals:

1. To promote collaborative research and agenda setting for children and young people
2. To promote the application of research to policy and practice for children and young people.

This paper is one of a series commissioned by ARACY to translate knowledge into action. This series of papers aims to convert research findings into practical key messages for people working in policy and service delivery areas.

The ARACY topical papers may also be the focus of workshops or seminars, including electronic mediums.

Developed for the Facilitating partners of the Australian Government Communities for Children initiative, this paper is now being made available to a wider audience via the ARACY website: [www.aracy.org.au](http://www.aracy.org.au).

## INTRODUCTION

What happens to children in the early years has consequences right through the course of their lives. While there are many opportunities to intervene and make a difference to the lives of children and young people, research suggests that intervening in early childhood, including the antenatal period, is the most effective phase to impact on the future development of the child. This Topical Paper explores the factors that impact on life-long health, development and well-being from ecological, life course and economic perspectives.

## WHY IS THIS ISSUE IMPORTANT?

In countries throughout the developed world, many children and young people are displaying worsening (or unacceptably poor) outcomes in many areas of health and development (1).

Australia is no exception to this trend. A recent summary of the local scene identifies the following patterns (2):

- Increasing proportions of our children and youth have complex diseases such as asthma, diabetes, overweight and obesity, intellectual disabilities, and particularly psychological problems such as depression / anxiety, suicide and eating disorders.
- There has been no reduction in the percentage of children born prematurely or underweight, or in those diagnosed with physical disabilities such as cerebral palsy.
- There have been perceived dramatic increases in a range of behaviour problems such as attention deficit disorder and hyperactivity; dangerous activities such as substance abuse; and the high levels of teenage pregnancies.



- Not all types of juvenile crime have increased, but the most aggressive ones certainly have, such as assault and rape.
- Trends in behavioural and learning outcomes in schools are challenging teachers, and education departments are voicing concern at the levels of social and other problems in schools and how these may affect educational achievement.
- Child abuse and neglect is reported more than ever before, although it may be that the occurrence is not really increasing, but that it has become more acceptable to report it.

There are some common patterns in these worrying trends among our children and youth:

- They appear to be occurring at younger ages than ever before.
- Girls are now involved almost as frequently as boys in those activities that were traditionally more likely to be male-dominated — eg. substance abuse, anti-social behaviour and aggressive juvenile crime.
- The problems are more severe, more complex, and more difficult to treat and manage than problems encountered 10-20 years ago.
- The different outcomes between the social levels of the Australian population have not levelled out as anticipated, but instead have become more marked.

In the light of these kinds of findings, there is mounting concern in many Western nations (eg. the United States, the United Kingdom, Canada) about the health and well-being of their families, children and young people. The seriousness of the problem is reflected in the number of recent publications by eminent social researchers and commentators in Australia and overseas who are concerned for the future of their societies if these problems are not addressed (3). They all argue that our societies cannot afford, socially or economically, to allow this situation to continue.



One of the principal reasons why we should share their concern is because these poor outcomes can have consequences much later in the life course. Many of the health and wellbeing problems we see in adults - obesity and its associations such as diabetes and heart disease, mental health problems, criminality, family violence, poor literacy, unemployment and welfare dependency - have their origins in pathways that begin much earlier in life, often in early childhood (4).

This does not mean that what happens in early childhood invariably determines later development; however early experiences set children on developmental paths that become progressively more difficult to modify as they get older (5). Hertzman puts the case for the importance of the early years thus:

*'The early years last a lifetime. Although this statement can be dismissed as a truism, it is profoundly significant. There is now an impressive body of evidence, from a wide range of sources, demonstrating that early child development affects health, well-being and competence across the balance of the life course.'* [5:6]

Another major reason why we should be concerned is that the problems noted above all have associated social and financial costs that cumulatively represent a considerable drain on society and undermine Australia's productivity (6). Economic costs include reduced skill levels that make Australia less competitive internationally, sub-optimal workforce participation and productivity, increased welfare payments, and increased costs of treatment services.

For instance, the cost of child abuse in Australia during the year 2000-01 has been estimated at \$4,929 million (7). The long term human cost and the cost of public intervention accounted for around three quarters of this total.



Family violence also costs Australia dearly: an estimated \$8.1 billion in the year 2002-03 (8). Nearly half of the cost is borne by the victims of violence, but other family members (including the children) also share these costs.

**The cost of child abuse in Australia during the year 2000-01 has been estimated at \$4,929 million (6).**

These poor outcomes and their associated costs are not necessarily the result of bad policies or government neglect. Australian governments of different political persuasion have continued to protect families against the worst effects of economic circumstances and social change. The poor developmental outcomes we are witnessing are more the result of economic and social change, as well as being the unintended consequences of policies that have proved remarkably successful in other ways (eg. in raising general economic prosperity) (9). While a majority of families and children are doing well, parenting generally has become more stressful and complex for many, and there is an increasing number of families with a complex array of problems.

## **WHAT DOES THE RESEARCH TELL US?**

There are many ways in which recent research has helped us understand the factors that impact on child development and family functioning. This paper focuses on three key perspectives: ecological, life course and economic perspectives.

### **The ecological perspective**

The health, development and well-being of children, as well as the functioning of their families, are profoundly shaped by environmental influences:



*'In the twenty-first century, social, economic, and environmental factors are more important than biological disorders as causes of poor health in children. .... The contribution of medical care is correspondingly modest and, for maximum benefit, health care must focus more on prevention'. [10:1-2]*

## **Young Children**

For young children, it is their antenatal, family, and social environments that are critical. Young children develop primarily through their relationships with the important people in their lives - in the early years, this means parents and caregivers (11). These relationships are what Shonkoff and colleagues (12) call the 'active ingredients' of the environment's influence on healthy human development. This is why Hertzman (5) has characterised the brain as 'an environmental organ'.

**Young children develop through their relationships with the important people in their lives.**

This responsiveness to relationships is a fundamental part of our biological make-up. Infants and caregivers are primed, by evolutionary adaptation, for caring interactions through which the child's potential human capacities are realised (13). Furthermore, these nurturing caregiver-child relationships have universal features across cultures, regardless of differences in specific child care practices.

Genetic factors also play an important role in childhood development. These factors have a pervasive influence on social behaviours and development, and even to the likelihood of experiencing particular types of risk environments (14). However, although genes predispose children to develop in certain ways, it is their environments that determine how these genes are expressed (that is, what impact they have) (14). In almost all cases, genes



and environmental factors interact to produce behaviour, rather than acting separately. It's a case of nature via nurture rather nature versus nurture (15).

How great an impact the immediate environment has on children depends upon their age. The younger the child, the more vulnerable their brain is to environmental influences. Adverse experiences in the early years are particularly damaging, shaping the development of young children's brains in ways that have long lasting effects (16). Severe and sustained stress (eg. from chronic abuse or trauma) in the early years is toxic for the growing brain and impairs its development (17).

**Early neglect is equally damaging.**

For instance, a follow up study of severely deprived children from Romanian orphanages who had subsequently been adopted by English families (18) found that marked adverse effects persisted at 11 years-of-age for many of the children who were more than six months old when they were adopted. Thus, once the damage was done, it was relatively enduring and not influenced by whether or not institutional deprivation continued.

## **Families**

For families, environmental influences are also important. General family functioning and parenting are both affected by the nature of the family's personal support networks, the degree of social capital in their local communities, and the quality of the social infrastructure (19).

- *Personal support networks* refer to the people in our lives, usually our family and friends, who are the most immediate sources of emotional and practical support. Social support has been found to be linked to a number of child and family outcomes, including low birthweight





(20), child abuse (21), child neglect (25), maternal adjustment (22), and both mental and physical health (23).

- *Social capital* refers to the degree of social connectedness within communities. This has also been linked to positive outcomes (OECD, 2001), but it is harder to operationalise and measure (24), and its effects are more indirect.
- *Social infrastructure* refers to the facilities and services available to families, and the nature of the built environment in which they live. What matters is exactly what child and family facilities and services are available and how accessible they are. All families need to have available a range of quality services and facilities (including child care, preschool and kindergarten), and these need to be easily accessible (financially, geographically, and culturally).

**All families need to have available a range of quality services and facilities.**

All three of these factors are known to have direct or indirect effects on the functioning of families and on their care and management for their children. In addition, family functioning is affected by the provision of family friendly workplace arrangements that enable parents to strike a positive balance between work and family commitments (26).

## **Children and Families**

For children and families alike, development is shaped by the ongoing interplay among sources of risk or vulnerability on the one hand, and sources of resilience or protection on the other (27). Single risk factors on their own are not usually sufficient to explain adverse developmental outcomes; outcomes are determined by more than one risk or protective factors (28).



Risk factors are cumulative (29), and their impact on individual children and families vary depending on the child's age and length of exposure: the younger the child the more vulnerable he/she is to environmental risk; the longer children are exposed to environmental effects and risk factors, the greater the likelihood of later sub-optimal outcomes; and the more severe the adverse experiences, the more damaging they are.

The cumulative impact of risk factors leads to the emergence of a range of social, emotional, cognitive and health problems. The most usual way of responding to such problems, – which, is to wait until they have become established and then try to remediate them, – are expensive and relatively ineffective (30). The evidence indicates that intervening early in the life course to prevent or reduce later problems gets better results (31). For example, for children with cerebral palsy it has been argued that 'simple, low-cost, universal measures implemented early in the pathway may be more effective, but less visible, means of prevention than relatively expensive medical interventions selectively implemented late in the causal path' (32).

Studies of good quality early intervention programs have shown that:

- they lead to improved psychosocial and health outcomes in the long-term;
- they are particularly effective with children from disadvantaged backgrounds;
- the earlier the intervention begins (and the longer it lasts), the more effective it is likely to be;
- interventions need to address multiple environmental risk factors simultaneously rather than focusing on single issues - intervention programs that address a single aspect of child and family functioning are likely to fail by ignoring other factors that can undermine family functioning and child development;



- sustained intervention over time (rather than intervention at a single time point) is most likely to be effective;
- the nature and intensity of the intervention may vary over time because of changing circumstances and developmental needs, and needs to be flexible.

## The life course perspective

The second research perspective focuses on life course research, and what this tells us about the long term effects on later health or well-being of physical or social experiences during pregnancy, infancy and early childhood.

Interest in a life course approach stemmed from the discovery of the links between early life factors and the occurrence of cardiovascular and other chronic diseases in later life (33). It was hypothesized that environmental exposures such as under-nutrition during critical periods of growth and development in pregnancy may have long term effects on adult chronic disease risk by 'programming' the structure or function of organs, tissues, or body systems. This idea of 'biological programming' was presented as an alternative explanation to the adult lifestyle model of adult chronic disease that focuses on how adult behaviours (notably smoking, diet, exercise and alcohol consumption) affect the onset and progression of diseases in adulthood (34).

There is no doubting the strength of the link between early experiences and later health outcomes, but the exact mechanisms or causal pathways are still being debated (35). Different life course models have been developed (36). Perhaps the most helpful of these is that developed by Hertzman and Power (2003). They describe three ways in which exposure to both beneficial and adverse circumstances over the life course contributes to each person's



unique life exposure path, resulting in different expressions of health and well-being:

- *Latency effects:* Exposure to particular environment influences (eg. poor nutrition) at one point in the life course increases the chances of poor health and well-being years or decades later, irrespective of intervening experience.
- *Cumulative effects:* Multiple exposures over the life course to particular environments have a cumulative effect, for better or for worse, on development, health and well-being.
- *Pathway effects:* Exposure to a particular environment (eg. poverty) at one point in the life course increases the chances of ongoing exposure to similar environments.

These different life course patterns are not mutually exclusive – long-term outcomes are the result of all three forms of influence on different aspects of development at different points in time.

## The economic perspective

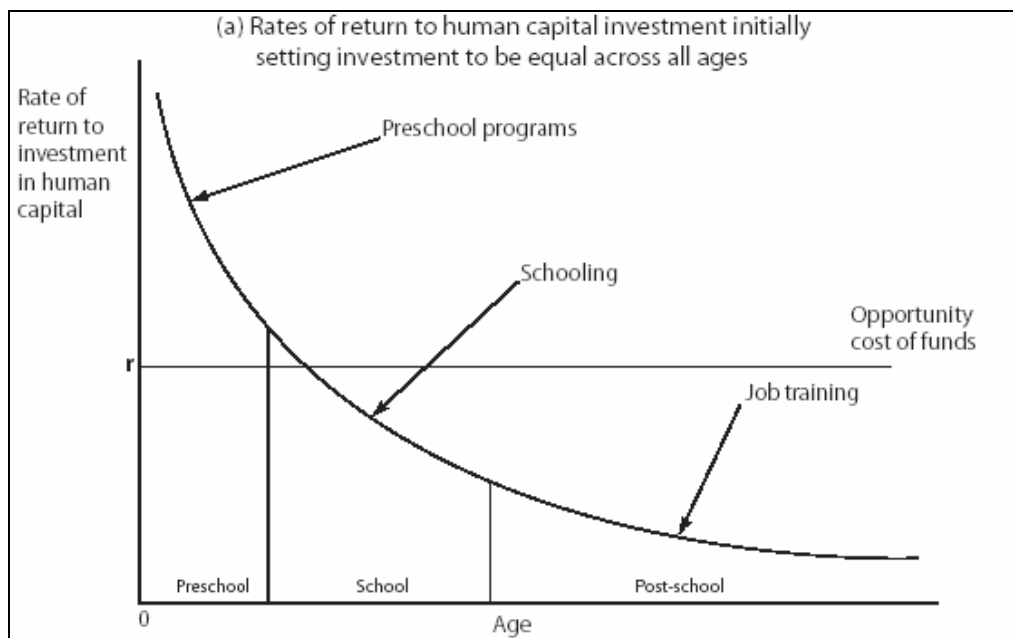
The economic perspective suggests that intervening early makes economic sense. Thus, Lynch (2005) argues that a nationwide commitment to high-quality early childhood development would cost a significant amount of money upfront, but it would have a substantial long-term payoff (37). It would reduce costs for remedial and special education, criminal justice, and welfare, and it would increase income earned and taxes paid. In addition, investing in young children in poverty is likely to have an enormous positive impact on the economy by raising the Gross Domestic Product, improving the skills of our workforce, reducing poverty, and strengthening the global competitiveness of the economy.

**Economists are now recognising that there are strong economic reasons for investing in early childhood programs.**



Cost benefit studies have shown that prevention and early intervention strategies are more effective than treatment programs. Educational outcomes illustrate this finding. On the basis of an extensive analysis of the evidence, James Heckman, a Nobel prize-winning economist, concludes that once children fall behind in their learning, they are likely to remain behind (38). Gaps in children's performance levels open up early, and stay mostly constant after eight years of age – beyond that age, school environments can only play a small role in reducing these differences. Intervention for deprived environments in the early years becomes progressively more costly (and less effective) as children grow older.

Heckman (39) argues that the economic returns on initial investments are much higher in the early years than when children are older. This is illustrated in the following figure.



[39: Figure 12, p. 76]



The analysis of the evidence, lead Heckman to conclude that 'the most economically efficient way to remediate the disadvantage caused by adverse family environments is to invest in children when they are young' (38).

## **WHAT ARE THE IMPLICATIONS OF THIS RESEARCH?**

Implications of the research can be summarised as follows:

- Intervening early in the life course has the greatest potential to prevent or significantly ameliorate some of the health and wellbeing problems seen in adult life. Policies that support this stance make sound economic sense. Investing in the early years provides a significant economic return on investment.
- We do not yet have the capacity to influence the biology of development, except during the antenatal period. However, we are able to modify the environments that are known to shape the course of child development and family functioning.
- Policies that focus on the treatment of established problems or conditions are not sustainable. It is more efficient and effective to intervene early in the developmental pathway. Many current services have rigid eligibility requirements which require them to only address established problems. They are not able to shift from treatment to providing support when the problems are first emerging and more likely to change.
- The most direct way of improving outcomes in childhood and thus influencing the life course is to ensure that all caretaking environments in the early years are consistently nourishing, stimulating, and meet the health and developmental needs of young



children. Disadvantage in this context is not only about lack of money but also about environments that do not provide the cognitive and social-emotional stimulation that young children require. Interventions need to focus on supporting efforts to provide a nurturing and stimulating family environment and to appropriately support parents in their caretaking role. Similarly, when young children spend time outside the home, the caretaking environment needs to be the best we can make it.

- Because risk factors cluster together and are cumulative, interventions that focus on single issues are unlikely to lead to lasting effective change. The problems of families with complex needs often transcend the capabilities of any single discipline or service, so that a multi-disciplinary, multi-service approach is necessary.
- Given the wide range of environmental risk factors that can influence family functioning and therefore child development, a multi-service and whole-of-government approach to policy and planning is needed, crossing the health, education and community sectors.

## CONSIDERATIONS FOR POLICY AND PROGRAMS

There is a need for greater investment early in the life course. Expenditure in the early years should be regarded as an investment, and is analogous to investing in physical infrastructure for the long term. Investment in early childhood needs to be incorporated into the economic debate about other forms of infrastructure and policy and programs ought to reflect a commitment to a greater investment in the early years. Considerations are:

- All policies need to be scrutinised to ensure that they do not inadvertently compromise the ability of families to provide appropriate nurturing and stimulating environments for young children – whether inside or outside the home. In pursuing economic objectives and increased labour force participation, governments



need to be mindful of possible unintended negative consequences for children and families.

- There should be greater alignment between Commonwealth and State government policies regarding young children and their families in order to maximise investment. Efforts should be made to identify common strategies that impact positively on young children and their families, as well as to explore possibilities of sharing resources and avoiding duplication.
- Policies aiming to improve educational outcomes need to focus on the early years, because gaps in abilities open up early, well before children start school. They need to take into account that learning begins at birth and that a child's early environment has a major impact on success at school.
- We need to focus on striving to create conditions that enable families to raise their children as they and we would wish. This includes taking into account the factors known to influence family functioning, including support networks and social infrastructure.
- Childcare needs to be conceptualised as an opportunity for learning and socialisation rather than child minding. Policies need to focus on creating a quality early learning environment; this means having staff with appropriate qualifications and training, and child/staff ratios that are appropriate to the developmental needs of the child.
- All young children, and especially those from disadvantaged families, should have the opportunity to attend quality early learning programs in childcare and preschool settings. This means addressing the financial and other barriers that prevent access for many children.
- Universal and primary care services across the health, education and community sectors need to be better coordinated with one another, in order to address multiple environmental risk factors and respond to the needs of families with complex needs.





- Services need to be more flexible, with less rigid eligibility requirements so that they can respond to the emerging needs and problems of children and families rather than waiting until problems become established.



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